1. INTRODUCTION

1-1. FEATURES

The Model FG−8002 is an advanced Function Generator which provides functions of function generator, pulse generator and sweep oscillator including following versatile features.

(1) WIDE BAND WIDTH covers full oscillation frequency range from 0.02Hz to 2MHz.

(2) VERSATILE WAVEFORMS are selectable in sine wave, square wave, triangle wave and pulse wave etc.

(3) TTL−LEVEL SQUARE WAVE output is available for signal source for Digital circuit experiments.

(4) By SYMMETRY FUNCTION, the symmetry of saw-tooth wave and pulse wave can be controlled.

(5) Frequency of output signal can be controlled by applying voltage from 0 to +10V to VCF IN connector.

(6) The linear sweep function provides SWEEP FUNCTION CONTROL from 1 : 1 to 100 : 1.

(7) DC VOLTAGE from 0 to +10V can be OVERLAID upon output waveform.

(8) Maximum ATTENUATION is over 40dB.

1-2. SPECIFICATIONS

(1) Frequency Range	:	0.02Hz to 2MHz
(2) Output Waveform	:	Sine wave, Square wave Triangle wave, Pulse wave. TTL−level square wave, Ramp wave Screwed sine wave.

(3) Accuracy of
Dial Scale to : ±5% (Range : 1, 10, 100, 1K, 10K, 100K)
Output frequency : ±8% (Range : 1M)

(4) VCF input voltage : 0 to 10V (DC or AC peak)

(5) Frequency Variable Range : 100 : 1 or more.

(6) Symmetry Variable Range : 10 : 1 to 1 : 10 or more.

(7) DC Offset : ±10V (Open circuit)
±5V (Into 50Ω)

(8) Sine Wave
① Distortion : ±1% or less (10Hz to 100KHz)
② Flatness : ±0.35V (Reference level : +10V)

(9) Square Wave
① Symmetry : ±3% or less(at Max, 1KHz)
② Rise/Fall Time : 100nS or less(at Max, output level)

(10) Triangle Wave
① Linearity : ±1% or less (10Hz to 100KHz)
±5% or less (100KHz to 2MHz)

(11) TTL Output
① Rise/Fall Time : 25nS or less
② Output : TTL level

(12) Sweep
① Sweep Width : 1 : 1 to 100 : 1
② Sweep Ratio : 20nS to 2S (0.5Hz to 50Hz)
③ Internal Sweep : Linear
External Sweep : Controlled by VCF input

(13) Output
① Maximum Output Voltage : 20Vp-p (Open circuit)
10Vp-p (Into 50Ω)
② Attenuator : −20dB Step
③ Impedance : 50Ω ±10%

(14) Power

① Performance power requirement	:	110/220V AC± 10% 50/60Hz
② Power Consumption	:	Approx, 20W

(15) Environmental Conditions

① Storage temperature	:	−20℃ to +60℃
② Operating temperature	:	0℃ to +35℃
③ Operating Humidity	:	35% to 85%
④ Rated Range of use temperature	:	+23℃ (± 5℃)
⑤ Frequency stability	:	± 0.5% (18℃ to 28℃) ± 10% (0℃ to 18℃, 28℃ to 35℃)

1-3. ACCESSORIES

The following accessories are included in the package of this instrument.

(1) FUSE	:	2
(2) BNC to CLIP Cable	:	1
(3) Instruction Manual	:	1

1-4. PRECAUTIONS

Following precautions are needed,
for safe use and longer life of the instrument.

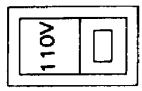
1-4-1. INPUT VOLTAGE & FUSE

(1) Before connecting POWER to the instrument, make sure that the line voltage selector is set to the correct voltage level for the AC voltage being applied, and correct fuse is installed.

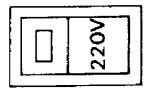
Input line Voltage	Voltage Selector
99V~121V AC (50/60Hz)	110V
208V~242V AC (50/60Hz)	220V

(2) Voltage level can be selected by turning the voltage selector on the rear panel of the instrument.

(Example)



〈110V Setting〉



〈220V Setting〉

(3) Use only specified fuse.
Fuse specifications for input voltage are as following

Voltage	Fuse Spec.	Size
110V	0.5A, 250V	5.2 ϕ ×20
220V	0.25A, 250V	5.2 ϕ ×20

1-4-4. INSTALLATION & HANDLING

(1) Avoid installing the instrument in an extremely hot or cold place.
(For example, long exposure to direct sunlight, near a heater or in a closed car in midsummer)

(2) Do not move the instrument rapidly from a hot place to a cold place or vice versa.
Condensation may form inside of the instrument.
When moving, Warming time is needed before operation.

(3) Keep the instrument away from damp air, water and dust.
Unexpected trouble may be caused when the instrument is placed in a damp or dusty place.

(4) Do not place a liquid-filled containers such as a vase on the instrument.
(Accidental intrusion of liquid may also cause troubles)

(5) Do not place the instrument in a place where vibration is strong.